ABSTRACT

SYNTHESIS OF N'-BENZYLIDENECINNAMOYLHYDRAZIDE AND N'-(4-METHOXYBENZYLIDENE)CINNAMOYLHYDRAZIDE FROM CINNAMIC ACID USING MICROWAVE IRRADIATION

Aghnia Talcha Huwaina Pertiwi

The synthesis of N'-benzylidenecinnamoylhydrazide and N'-(4-methoxybenzylidene)cinnamoylhydrazide has been performed through microwave irradiation in same condition. The reaction was performed in three steps using cinnamic acid as the starting material. The first step obtain methyl cinnamate by reacting cinnamic acid with dimethyl sulfate, the second step obtain cinnamoylhydrazide by reacting methyl cinnamate with hydrazine hydrate and the third step obtain N'-benzylidenecinnamoyl-hydrazide and N'-(4-methoxybenzylidene)-cinnamoylhydrazide by reacting cinnamoylhydrazide with benzaldehyde—and 4-methoxybenzaldehyde, respectively.

N'-benzylidenecinnamoylhydrazide was obtained as yellow crystal with 1,56 % yield (m.p 200-202^{o}C) and N'-(4-methoxybenzylidene)-cinnamoylhydrazide was obtained as pale yellow crystal with 0,58 % yield (m.p 216-218^{o}C). Identification of the synthesized compounds were confirmed by UV-Vis spectrophotometer, IR spectrophotometer, and 1H-NMR spectrometer.

Keyword : Synthesis, N'-(4-methoxybenzylidene)cinnamoylhydrazide, methyl cinnamate, N'-benzylidenecinnamoylhydrazide, cinnamoylhydrazide, microwave irradiation